Single-piece Sealing Cover

The invention relates to a single-piece sealing cover made of plastic, especially for sealing an opening in a support according to the preamble of Claim 1.

Such sealing covers are already known according to the state of the art (DE 35 12 582 C3, DE 37 13 503 C1). These sealing covers respectively present an elastic sealing lip and, opposite to same, one or several locking rings. As a result of which, in mounted state, tight sealing is to be guaranteed, following final assembly, in addition to reliable holding in a support.

Another construction, on which the present invention is based, is designed in such manner that the basic body is in the form of a funnel-shaped, circumferential collar, with the bottom being able to be moved in parallel to the support opening and the bottom and a wall element presenting cooperating locking elements (DE 39 02 500 C2).

It is the object of the present invention to improve such single-piece sealing covers and to simplify their handling, while tight sealing is, nevertheless, assured.

Said object is solved according to the invention in that the outer leg and the basic body can be locked together, after pre-assembly, via the stop connection, by insertion into the support and following final assembly, and that after the final assembly the outer collar and the disk-shaped basic body extend in parallel.

This results in the advantage that the single-piece sealing cover is easily inserted into an opening, whereby, following said pre-assembly, the stop connection between outer leg and basic body is established by means of pressure upon the disk-shaped basic body, causing part of the outer leg and the intermediate region gripping in bulge-like manner behind a circumferential flange of the support, thus assuring a tight seal.

Beneficial further designs are evident from the sub-claims.

The invention is described in more detail below, making use of an exemplary embodiment represented in the drawing. The drawing depicts:

Fig. 1 a bird's eye view onto the invention-specific sealing cover.

Fig. 2 a section according to line II-II in Fig. 1, with the upper representation showing pre-assembly state, and the lower representation indicating the final assembly.

The single-piece invention-specific sealing cover 1, which is made of plastic, serves for sealing an opening 2 in a support 3 according to Fig. 2. Said sealing cover has a disk-shaped basic body 5, adjacent to which is a circumferential collar 8. The collar is designed in the shape of a U, with an inner leg 10, an intermediate region 12 and an outer leg 14. In this arrangement the intermediate region 12 connects the inner leg 10 with the outer leg 14.

In the entrance region, the outer leg 14 presents a circumferential edge 20, which can interact with an opposing edge 22 of the basic body 5, thus forming a stop connection 16.

Adjacent to the circumferential edge 20 of the outer leg 14 is an outer collar 24 which impinges upon the support in the region of the opening 2. The support 3 preferentially presents a circumferential flange 18, which extends in parallel to the inner leg 10 or the outer leg 14. The outer collar 24 and the disk-shaped basic body 5 likewise preferentially extend in parallel.

It is, moreover, discernible from Fig. 2 that the basic body is positioned higher in pre-assembly V and is positioned lower in the final assembly E than the outer collar 24.

Furthermore, it is discernible from Fig. 2 that the inner leg 10 and the outer leg 14 extend in parallel vis-a-vis each other and that the inner leg 10 is joined at a right angle with the disk-shaped basic body 5 and the outer leg 14 is joined at a right angle with the outer collar 24.

Fig. 2 represents in the upper region the pre-assembly V. Here, the invention-specific sealing cover 1 is inserted into the opening 2 of a support 3, with the outer collar 24 impinging upon the surface of the support 3 and the outer leg 14 being positioned in parallel to the circumferential flange 18 of the opening 2 of the support 3.

Following said final assembly, pressure is exerted upon the disk-shaped basic body 5 in the direction of the arrow I, as a result of which an opposing edge 22 of the basic body 5 grips behind an edge 20 in the entry region of the outer leg 14, and the position is adopted of the lower representation according to Fig. 2. Accordingly, the stop connection 16 between the outer leg 14 and the basic body 5 is established, with a portion of the intermediate region 12 and a portion of the outer leg 14 in this position partially gripping behind the circumferential flange 18 in bulge-like fashion, thus assuring tightness in addition to reliable holding. The circumferential collar 18 and a region of the opening 2 of the support 3 are thus acted upon in fail-safe manner by the outer leg

24 and the bulge-like overlap of the intermediate region 12 and the outer leg 14. After final assembly E there thus is assurance of perfect seating of the sealing cover in the opening 2 of the support 3.

Final assembly E can be counter-acted by exertion of pressure upon the basic body 5 in the opposite direction of arrow I, as a result of which edge 20 no longer grips behind the opposing edge 22 and the position according to stance V is adopted again.

The entire design is simply constructed, can be assembled quickly and presents high effectiveness.